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A New Species of the Genus *Nacaduba* MOORE (Lepidoptera, Lycaenidae) from Tahiti Island

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Abstract *Nacaduba tahitiensis* sp. nov. is described from Tahiti Island. The new species is distinguished from the other *Nacaduba* species by the metallic green scales on the underside of hindwing.

Introduction

The genus *Nacaduba* MOORE, [1881] contains about 40 species, distributed throughout the Oriental and Australian Regions as far east as Samoa.

In September 1988, the first author made a trip to Tahiti Island, and collected 7 butterfly-species including the interesting lycaenid one. At first sight, it resembles *Hypojamides catochloris* (BOISDUVAL, 1832) which is also known from Tahiti. However, examination of the external and genitalic characters revealed that it is a new species belonging to the genus *Nacaduba*.

Nacaduba tahitiensis sp. nov.

(Plate 1, Figs. 1 – 3)

Male. Forewing vein 11 anastomosed with vein 12 briefly near the base. Upperside of both wings deep purple, with linear black borders, about 1mm wide. Underside; forewing ground color ochreous brown with dull and indistinct markings; spaces between white lines somewhat darker than ground color; hindwing ground color as in forewing but suffused with metallic green scales except outer narrow area of submarginal lunulae. Length of forewing: 12.5 – 13.2mm.

Female. Veins as in male. Upperside of both wings paler than in male, with broader black borders (1.5 – 2.0 mm in width) extending along costa to base. Underside as in male.

Length of forewing: 13.0 – 13.5 mm.

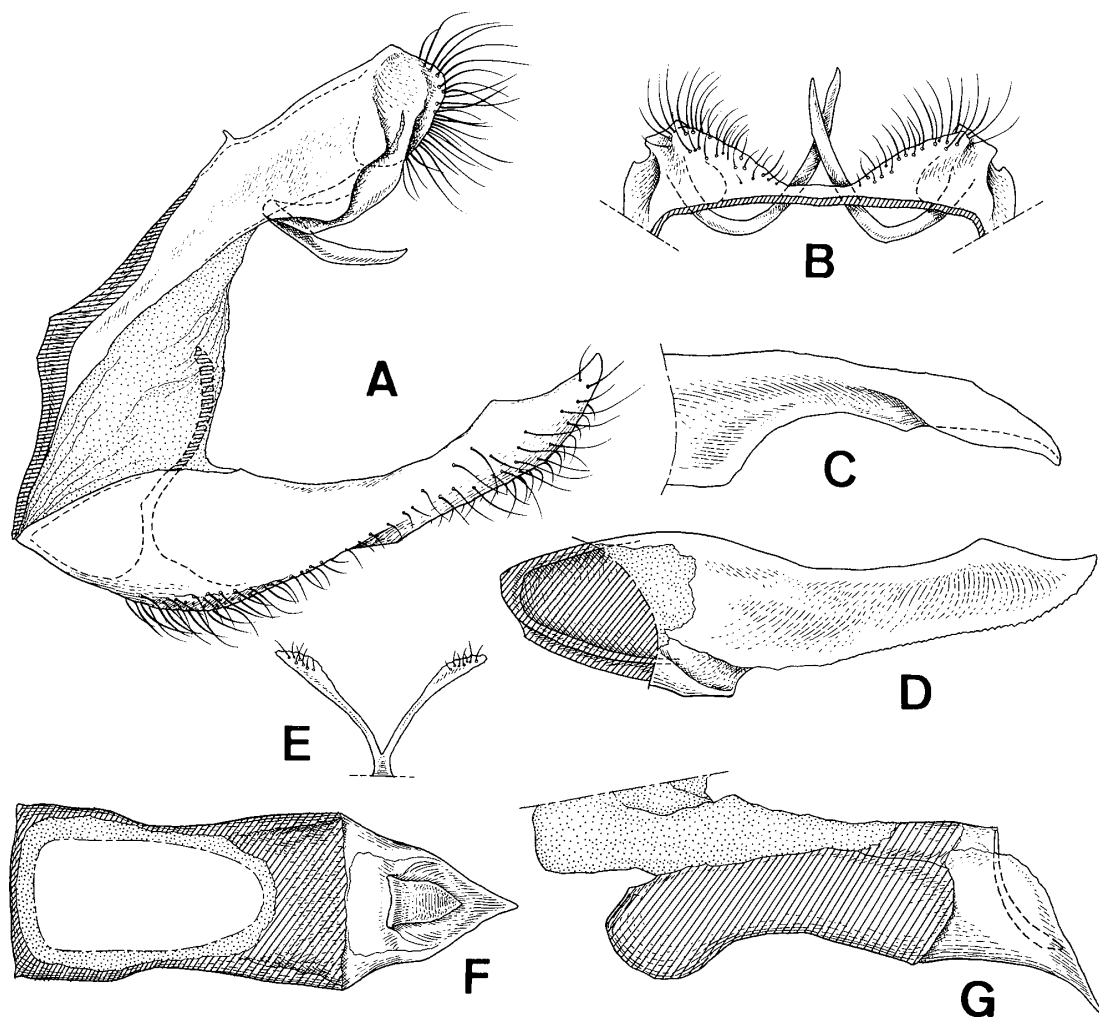


Fig. 1. Male genitalia of *Nacaduba tahitiensis* sp. nov. A. Lateral aspect as a whole except phallus; B. Dorsal aspect of dorsum; C. Distal half of right valva, dorsal aspect; D. Internal aspect of right valva; E. Posterior aspect of juxta; F. Dorsal aspect of phallus; G. Lateral aspect of phallus.

Male genitalia (Fig. 1). Dorsum small. Tegumen relatively narrow, short at dorsal portion; postero-ventral corner of tegumen produced semicircularly. Socius very short. Brachium long and hooked. Juxta V-shaped, with several short hairs at distal end of external surface. Phallus large, nearly cylindrical, depressed dorso-ventrally; subzonal sheath about $2/3$ as long as entire length of phallus; bulbus ejaculatorius attached to dorsal surface of subzonal sheath; distal portion of suprazonal sheath acuminate; dorsal portion with a shield-like plate. Valva large, blade-like; ventral (inner) margin minutely serrate.

Female genitalia (Fig. 2). Apophysis anterioris short, about $1/5$ as long as 8th tergum. Intersternal pouch relatively shallow, weakly sclerotized antero-dorsally. Corpus bursae nearly globular; signa well developed, represented by a pair of projecting horns as in usual *Nacaduba* species. Ductus bursae short; caudal portion weakly sclerotized, with a prominent swelling ventrally. Ductus seminalis gradually swollen

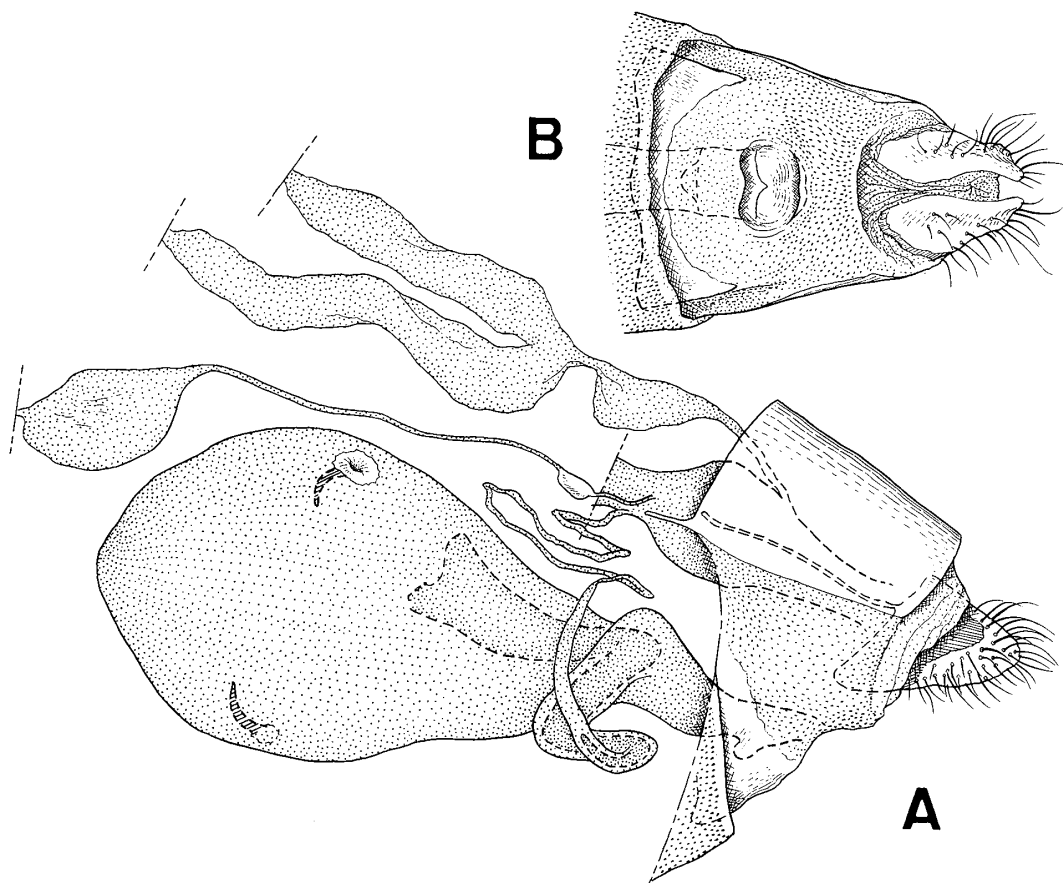


Fig. 2. Female genitalia of *Nacaduba tahitiensis* sp. nov. A. Lateral aspect of internal reproductive organs; B. Ventral aspect of terminalia.

toward the point of attachment to ductus bursae. Ostium opened at the middle of 8th abdominal venter. Papilla analis nearly triangular in lateral view.

Egg (Fig. 3). Upright, typical lycaenine form. Dorsal surface gently flattened. Outer chorionic ridges well-produced at subdorsal area. Size, 0.7 mm in diameter, 0.4 mm in height.

Holotype: ♂, Mt. Marau (1493m), Tahiti Island, 18. ix. 1988, Masayuki HARA leg. Holotype is deposited in the collection of the Kitakyushu Museum of Natural History.

Paratypes: 27♂, 3♀, the same data as holotype. Some of the paratypes will be deposited in the British Museum of Natural History, London; Entomological Laboratory, University of Osaka Prefecture, Osaka; and in the collection of the first author.

Remarks. Superficially the present new species resembles *Hypojamides catochloris* (BOISDUVAL) in having the metallic green scales on the hindwing underside, but is easily distinguished from the latter by the following points: (1) Wings of *H. catochloris* are obviously more rounded than in *tahitiensis*; (2) on the hindwing underside submarginal lunulae are present in *tahitiensis*, but absent in *H. catochloris*; (3) the metallic green scales are present on the underside of entire surface of hindwing and apex of forewing

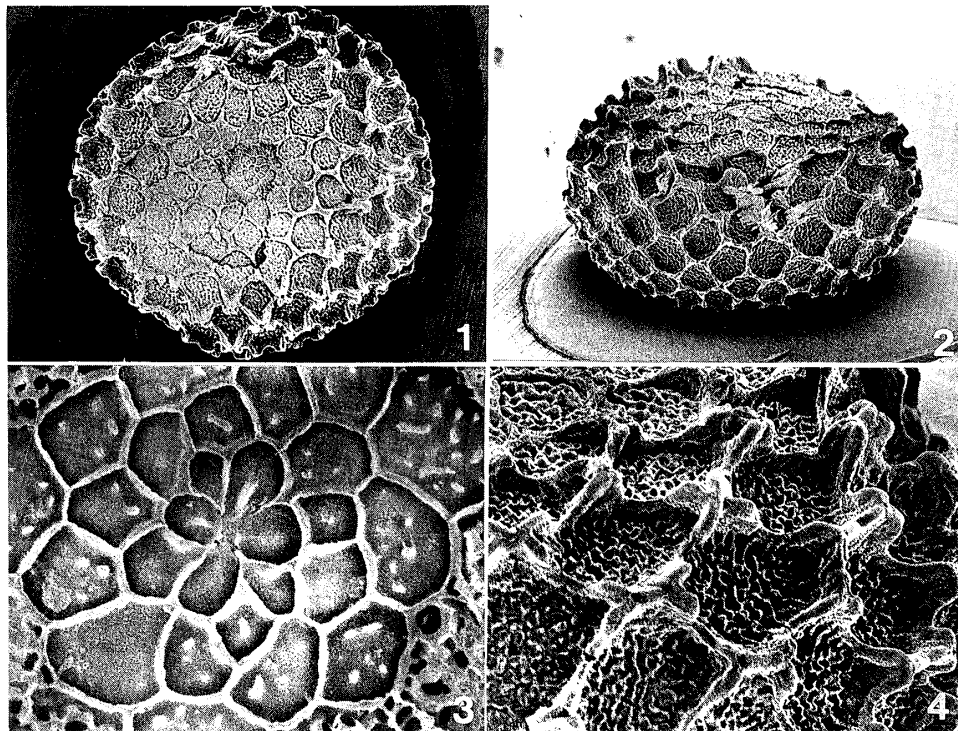


Fig. 3. SEM photographs of egg of *Nacaduba tahitiensis* sp. nov. 1. Dorsal aspect ($\times 57$); 2. Dorsolateral aspect ($\times 57$); 3. Micropylar region ($\times 570$); subdorsal area of chorionic ridges ($\times 190$).

in *H. catochloris*, but in *tahitiensis* they are present only on the underside of hindwing except outer area of submarginal lunulae.

In comparison with other *Nacaduba* species, *tahitiensis* shows a deviant feature in having such metallic green scales, but it is apparent that it belongs to this genus judging from the following characters: (1) The vein 11 is anastomosed with the vein 12 briefly near the base; (2) the bulbus ejaculatorius of the male genitalia is attached to the dorsal surface of the subzonal sheath; (3) the corpus bursae of the female genitalia is globular in shape, with a pair of thorn-like signa; the ductus seminalis is gradually swollen toward the point of attachment.

With regard to the egg (Fig. 3), it resembles that of *Nacaduba kurava* in the structure of outer chorionic ridges, rosette and micropylar region.

All individuals of the present new species were captured near the top of Mt. Marau (1493m) in Tahiti Is. at 10:30–12:00 on September 18th, 1988. It was fine and cloudy, 23°C (at 12:00). They were flying in flocks over the sunny shrubs of about 3m height, but they disappeared in the shade.

On the other hand, one female of *H. catochloris* was captured by Mr. COLLENETTE on March 11th, 1925 in the Fautaua Valley in Tahiti at an elevation of 2500 ft. Since then, no additional specimen has been obtained. POULTON & RILEY (1928) erected the genus *Hypojamides* based on the single female of *catochloris*, and ELIOT (1973) tentatively placed the genus in the *Nacaduba* section, however, the systematic position of this taxon is still unclear.

Acknowledgement

Finally, we express our hearty thanks to Emeritus Professor Takashi SHIRÔZU of Kyushu University and Dr. Kyoichiro UEDA of Kitakyushu Museum of Natural History who gave us valuable advice. Our sincere thanks are also due to Mr. P. R. ACKERY for giving us an opportunity to examine *H. catochloris*. The first author also wishes to express his gratitude to Mr. Takashi IWASAKI who gave him a chance to capture this new species.

References

- ELIOT, J. N., 1973. The higher classification of the Lycaenidae (Lepidoptera): a tentative arrangement. *Bull. Br. Mus. nat. Hist. (Ent.)* 28: 373–505, 162 figs. 6 pls.
POULTON, E. B. & N. D. RILEY., 1928. The Rhopalocera of the "St. George" expedition, from French Oceania. *Trans. ent. Soc. Lond.* 1928: 453–468.

摘 要

タヒチ島産 *Nacaduba* 属 (鱗翅目, シジミチョウ科) の 1 新種 (原雅幸・広渡俊哉)

著者の原雅幸が 1988 年 9 月に南太平洋のタヒチ島で採集した 28 ♂ 3 ♀ に基づいて記載した。本種は外観的に同島産の *Hypojamides catochloris* (BOISDUVAL) に似るが、成虫ならびに卵の形態を詳しく調べたところ、*Nacaduba* 属 (アマミウラナシジミ属) の新種であることがわかった。

Nacaduba tahitiensis sp. nov.

タヒチシジミ (新種新称) (Plate 1, Fig. 1–3)

♂ の翅表は暗紫色で外縁黒帯は約 1.0 mm, ♀ の翅表は♂ よりも明るい青紫色で、前翅前縁を含めて 1.5–2.0 mm の外縁黒帯がある。雌雄ともに前翅裏面は暗褐色で条線は不明瞭。後翅裏面の地色は前翅と同じく暗褐色だが、亜外縁斑の内側に鈍い金属光沢のある緑色鱗が現れる。前翅第 11 脈は基部付近で第 12 脈と癒合し、再び離れて前翅前縁に達する。雄交尾器の *bulbus ejaculatorius* は *phallus* の *subzonal seath* 背方はほぼ全面につく。雌交尾器の *corpus bursae* は球状で、鉤状の *signa* が発達し、*ductus seminalis* が *ductus bursae* への開口部付近で太くなる。卵は直径 0.7 mm, 高さ 0.4 mm の扁平な饅頭型で、卵殻面の隆状突起の背方の周辺域でやや高くなる。

Holotype. ♂, 北九州市立自然史博物館所蔵

Paratypes. 27 ♂, 3 ♀, 北九州市立自然史博物館, 大英博物館 (自然史), 大阪府立大学農学部昆虫学研究室ならびに著者 (原雅幸) 所蔵。

本種は同島産の *H. catochloris* に似るが、以下の点によって区別できる: (1) 翅形は本種よりも *catochloris* のほうが丸みが強い, (2) 本種では前後翅裏面にくさび状の亜外縁斑をもつが、*catochloris* ではこれを欠く, (3) *catochloris* では前翅裏面の翅頂部付近と後翅裏面全域に鈍い金属光沢のある緑色鱗が現れるが、本種では前翅裏面にはこの緑色鱗は現れず、後翅裏面でも亜外縁斑の内側に限定される。

また、本種は後翅裏面に緑色鱗を有することで *Nacaduba* の他の種とは外観的にかなり異なるが、上記の翅脈、雌雄交尾器などの形態的特徴によって *Nacaduba* 属に含まれることは疑いない。卵についても隆状突起、ロゼットや精孔部などの形状は基本的に *Nacaduba kurava* (アマミウラナシジミ) のものと類似している。

本種 *tahitiensis* はタヒチ島のマラウ山 (1493 m) の山頂付近で 1988 年 9 月 18 日午前 10 時 30 分から正午

の間に採集された。気温は 23°C (正午), 約 3 m の灌木上 (Plate 1) で日が射すと数個体が活発に飛び、陰ると葉上に静止していた。日光に輝く後翅裏面の緑色鱗は金属的で美しく、飛翔は敏速であった。一方、本種に類似する *H. catochloris* は同島の Fautaua 谷 2,500 f. (約 800 m) の地点で 1925 年 3 月 11 日に 1 ♀ (この個体は現在大英博物館に所蔵されている) が採集されたが、その後まったく採集記録はない。POULTON & RILEY (1928) は *catochloris* 1 種に基づいて *Hypojamides* 属を創設し、ELIOT (1973) はこれを暫定的に *Nacaduba* section に含めたが、*catochloris* の分類学的取り扱いについては今後さらに検討する必要がある。

末筆ながら、本原稿を作成するにあたり、大変お世話になった九州大学名誉教授白水隆博士と北九州市立自然史博物館の上田恭一郎博士、*H. catochloris* の調査をお許しいただいた大英博物館の P. R. ACKERY 氏、ならびに本種採集に便宜を計っていただいた岩崎暁氏に深甚なる謝意を表する。

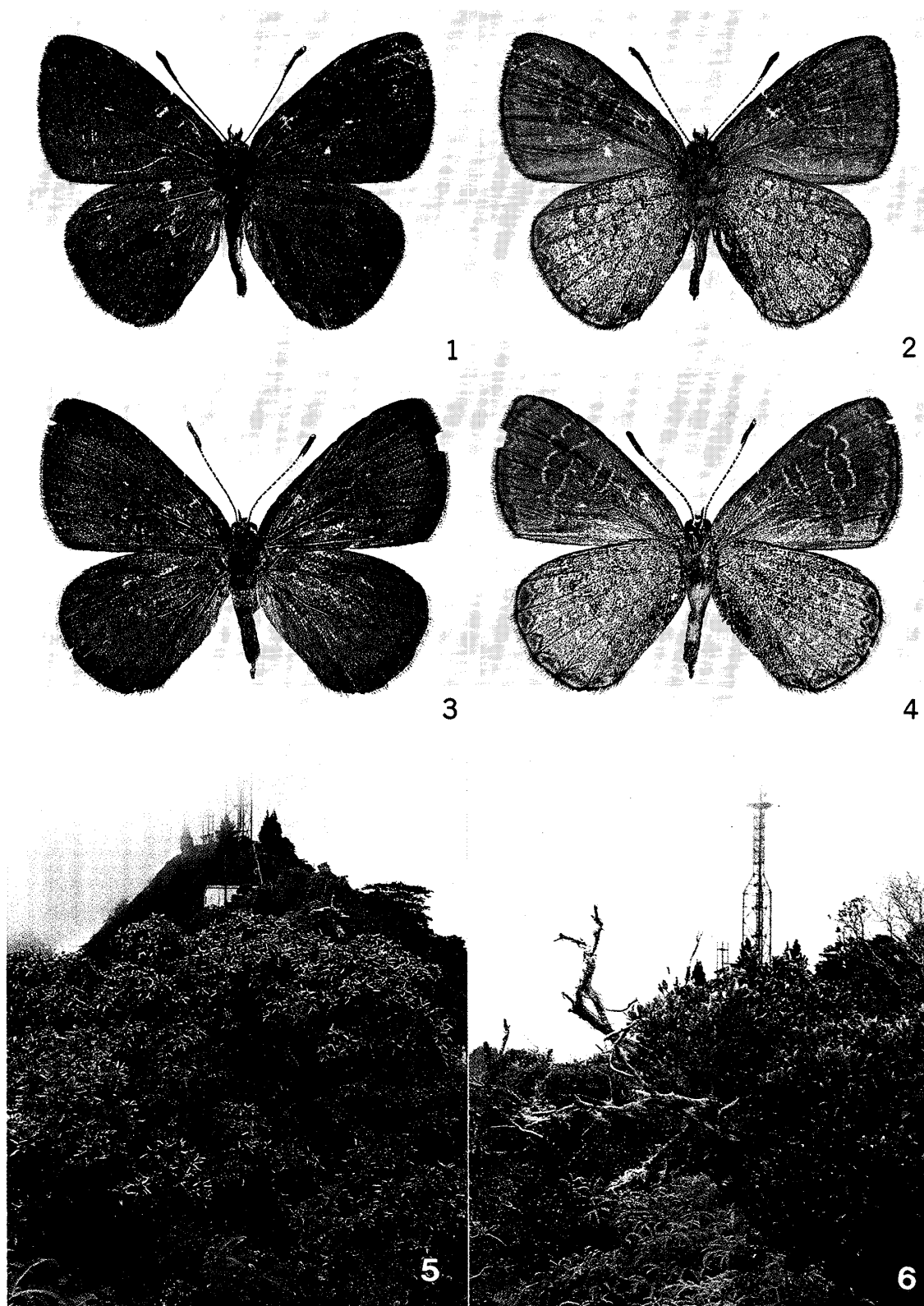


Plate 1. *Nacaduba tahitiensis* sp. nov. 1. Holotype ♂, upperside ; 2. *Ditto*, underside ; 3. Paratype ♀, upperside ; 4. *Ditto*, underside ; 5, 6. Mt. Marau (1493m), the habitat of *N. tahitiensis* sp. nov.